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E-MONEY SERVICES AND THEIR POTENTIAL IN YEMEN

ANALYSIS OF GAPS AND OPPORTUNITIES



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Cover photo: Changing money in Yemen. (Credit: Alliance for Financial Inclusion)

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ACRONYMS

AFI	Alliance for Financial Inclusion
AMEG	Asia and Middle East Economic Growth Best Practices Program
AML	Anti-Money Laundering
ATL	Above the Line
ATM	Automated Teller Machine
BTL	Below the Line
CDMA	Code Division Multiple Access
CBY	Central Bank of Yemen
CFT	Combating Financing of Terrorism
CGAP	Consultative Group to Assist the Poor
DFS	Digital Financial Services
ETC	Emergency Telecommunications Cluster
FAO	Food and Agriculture Organization
FATF	Financial Action Task Force
G2P	Government to Person
HSA	Hayel Saeed Anam
IBY	International Bank of Yemen
IDP	Internally Displaced Person
ICT	Information and Communications Technology
IFC	International Finance Corporation
IVR	Interactive Voice Response
KYC	Know Your Customer
MABS	Microenterprise Access to Banking Services Program
MNO	Mobile Network Operator
PIN	Personal Identification Number
SFD	Social Fund for Development
SMS	Short Message Service
UN	United Nations

UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Program
UNICEF	United Nations Children’s Fund
USAID	United States Agency for International Development
USSD	Unstructured Supplementary Service Data

EXECUTIVE SUMMARY

Objective. The objective of this report is to analyze the current e-money market and the pre-conditions needed to facilitate the expansion of e-money products and services to facilitate the flow of salary payments and cash transfers to address the humanitarian crisis in Yemen. This report also provides potential options for the United States Agency for International Development (USAID) or other donors to support the expansion of e-money services in Yemen in 2017.

E-MONEY SERVICES IN YEMEN

Yemen is just beginning to implement e-money services, and due to the ongoing conflict, many of the common preconditions seen throughout the rest of the world for successful e-money rollout are not yet in place. Therefore, a priority in designing short-term assistance should be focused on assisting Yemen to work on addressing several of these pre-conditions, which when implemented, will greatly improve the likelihood of successful e-money activities in Yemen.

Al-Kuraimi Islamic Microfinance Bank, Al-Amal, Yemen Post, and Tadamon International Islamic Bank have all applied and been granted conditional licenses by the Central Bank of Yemen (CBY) to offer mobile e-money products and services. Al Kuraimi launched its mobile e-money platform M-floos in August 2016 and Al-Amal and Tadamon banks plan to start publicly offering their e-money services in January 2017. All three banks demonstrate the potential to not only support outreach and adoption but, more importantly, usage of e-money services.

CBY, along with a fairly active and engaged private sector base, has had a continuous dialogue that has resulted in a regulatory framework that supports the introduction and adoption of e-money services. Similar to situations in other markets, regulations require constant adjustment to support and react to the market to both provide an enabling environment and support safety and soundness. In the case of Yemen, the industry has raised several suggestions that CBY is considering, but need further technical support, including:

- Enabling crisis-adaptable Tiered Know Your Customer (KYC) requirements for account opening;
- Ensuring that multiple access outlets including a variety of branches, automated teller machines (ATMs), and third party agents are in place and can be utilized by multiple players;
- Ensuring adequate access to Information and Communications Technology (ICT) infrastructure such as access to Unstructured Supplemental Service Data (USSD) channels;
- Supporting risk-based proportionate regulatory oversight and supervision.

OPTIONS TO SUPPORT THE USE OF E-MONEY IN YEMEN

Given the current situation in Yemen and the early stage of e-money services there, the use of e-money and e-payments will take time to develop and should not be seen as a quick fix to getting funds out to large numbers of the population in the next 6-9 months. While e-money services have been used in other countries post-crisis, these markets have tended to be a bit more advanced in terms of existing e-money and e-payment infrastructure and adoption. Even though the e-money infrastructure is still in a nascent state in Yemen, there are steps that can be taken to ultimately enable e-money adoption and usage in the medium to long-term, including support to improve the policy and regulatory environment and to pilot test and initiate support for e-money services.

Support for coordination mechanisms to enable and leverage the use of digital financial services. Concerted efforts underway by the Social Fund for Development (SFD) and international donors may help to lay the initial groundwork for e-money adoption and usage in Yemen. USAID and other donors could provide support for these efforts to enable digital financial services (DFS) such as:

- Integrating e-money into government/donor-led crisis cash transfers;
- Bringing in the private sector early, and in a prominent role to brainstorm solutions;
- Integrating initial pilot tests to ultimately digitize Government-to-Person (G2P) payments;
- Working together with multiple stakeholders to develop common, multi-purpose, and open DFS delivery mechanisms.

Priority investments to enable the use of e-money and agents. Critical needed investments include:

- Ensuring the presence of a reliable cash-in and cash-out agent network;
- Optimizing the retail payment infrastructure;
- Expanding technical capacities for DFS within and across all sectors;
- Making sure multi-donor appeals incorporate DFS elements.

USAID and other donors could also work with the CBY to review the restriction that agents must limit themselves to contract with no more than two e-money operators. Removing this restriction could facilitate players sharing the investment to build out the agent network infrastructure in the country rather than investing in multiple efforts.

Policy/regulatory support. A significant percentage of Yemenis do not have national identification cards. Further study and analysis could support CBY to make appropriate adjustments to add a middle KYC tier that allows some forms of alternative identification, especially for those receiving cash transfers and salary payments.

The current and planned e-money providers have so far not been able to access essential USSD channels from the active mobile network operators (MNOs) in the country. While their systems can operate without access to the USSD channel, they would certainly benefit from gaining access and utilizing this service. USAID can share

early research and examples from other countries with CBY and the Yemen Ministry of Telecommunication and Information Technology to help them develop more appropriate regulations that could better ensure that fair access to this important part of the ICT infrastructure.

Due to the war, the CBY was unable to obtain the support it needed to carry out independent evaluations of the e-money systems to ensure they were sufficiently robust. As a result, all initial e-money operator licenses are still conditional. CBY teams in Sana'a and Aden could potentially conduct the evaluations if provided with remote training and guidance.

The CBY staff in Sana'a have been approached to see what can be done to fast track mobile money services in Yemen. While there is some interest and early discussion about more flexible arrangements to allow involvement of non-bank e-money issuers, there are several issues that need to be addressed, and which are further outlined in this report.

Increased access to data for appropriate interventions. Usage of data is crucial to facilitate access to e-money platforms. Two examples that might be useful in the case of Yemen are: 1) Supporting various means to better ensure access to digital identification for vulnerable populations; and 2) Geo-mapping payment players and access points (branches, ATMs, agent locations).

Support for E-Money Pilots. Support could include:

- Agent Network Training and Management - This could include limited funding to adapt and build on available manuals and Training of Trainers programs.
- E-money Payroll for Bank Employees and Limited Cash Transfers - Pilot tests should include bank employees to make sure they are able to *walk the talk* and who can explain the technology to customers based on personal experience.
- Early Client Adoption and Usage – This would initially cover the costs of training and supporting mobile phone banking specialists who would later be hired by the banks.
- Merchant Adoption - All the banks have relationships with various merchants which could make use of e-money for payments or even for a voucher-type of initiative. This could be done in conjunction with SFD, the United Nations Children's Fund (UNICEF), and/or the World Bank.
- Alternative Identification – Should the CBY amend the KYC requirements to include a third-tier, alternative form of identification, USAID or other donors could pilot the use of digital/biometric client identification.

SECTION I

BACKGROUND

Before 2014, high population growth, food and water scarcity, and widespread poverty were already threatening Yemen's population. The violence beginning in 2014 has resulted in a catastrophic humanitarian emergency. In May 2015, the United Nations (UN) placed the Republic of Yemen at Level 3 humanitarian distress, the highest categorization of countries in conflict. About half of Yemen's population of roughly 26.8 million live in areas directly affected by the conflict. Over 80 percent of the population is in need of humanitarian assistance and 2.8 million Yemenis have been forcibly internally displaced. Severe food insecurity affects 7.6 million people and more than 1.5 million children are suffering from severe malnutrition. Aid delivery has been affected by violence and security concerns. According to the World Bank, it is now estimated that the incidence of poverty may have almost doubled across Yemen from 34.1 percent in 2014 to 62 percent by 2016.

The current conflict has disrupted the country's existing business operations, making entrepreneurs and firms either temporarily suspend operations, permanently close or, in the case of larger firms, relocate their operations overseas. Several UN agencies have identified cash assistance and creating income generation opportunities as priority interventions during the emergency. Among their responses, UNICEF is implementing a cash transfer program to internally displaced persons (IDPs) and the United Nations Development Program (UNDP) is partnering with the Social Fund for Development (SFD) to implement cash transfers to more than 1.5 million Yemenis, an effort primarily supported by the \$50 million World Bank-funded Yemen Emergency Crisis Response Project. The Food and Agriculture Organization (FAO) is also planning to implement cash and in-kind transfer activities linked to the production of food to preserve household incomes and increase household resilience to food security threats. A cash liquidity crisis however, is making it difficult for even these programs to distribute cash and other benefits to those in need. Public and private sector salaries are also going unpaid due to the shortage of domestic currency in the banking system. An almost 50 percent devaluation of the Yemeni Riyal along with payment to the military using Saudi Riyals has created additional pressure on the local currency, as many convert Yemeni Riyal to the more stable Saudi Riyal.

In 2015, there were estimated to be approximately 8 million mobile phone subscribers in Yemen. While there are reports that a significant amount of Yemen's telecommunication infrastructure was destroyed or damaged during the civil fighting, a global organization called the Emergency Telecommunications Cluster (ETC) has been assisting to improve telecommunication services in Yemen since April 2015, and has provided basic security telecommunications services, internet hubs, and power charging stations. Based on initial updates, mobile phone coverage has been returned to more than 85 percent of the country and ongoing work is continuing.

OBJECTIVE

The objective of this report is to analyze the current e-money market in Yemen and the pre-conditions needed to facilitate the expansion of e-money products and services to facilitate the flow of salary payments and cash transfers to address the humanitarian crisis. This report also analyzes the current infrastructure needed for e-money services, capacity of e-money providers, the planned and potential agent network options, the potential e-money/e-payment ecosystem looking at retailers and clients, and the options for supporting expansion of e-money services in 2017.

METHODOLOGY

Throughout November and December of 2016, the Asia and Middle East Economic Growth Best Practices Project (AMEG) assessment team conducted interviews with the Central Banks of Yemen in Sana'a and Aden, commercial bank operators, international donors, and other stakeholders. Given the ongoing conflict within Yemen, the entire assessment was conducted outside of the country by a Yemeni national based in Beirut and an e-money expert based in the U.S. Both had pre-existing connections to stakeholders in Yemen, and were able to utilize those connections to conduct interviews by phone and Skype. All commercial banks and potential e-money operators were asked the same set of primary questions:

- What is the number of accounts, agents, and daily disbursements?
- What is the size of your current retailer network? How many retailers are willing to join an e-money pilot? Are they willing to be cash-in-out points?
- What is the capacity of your bank to provide secure e-money services compliant with CBY regulations?
- Does your bank employ a biometric system (other than national identification)?
- From the point of view of the bank, what is the best/most likely location for a pilot e-money activity?
- How do infrastructure challenges nationwide affect e-money operations? Are there any lag-times associated with Short Message Service (SMS) banking?

Additionally, the team reviewed relevant e-money regulations in Yemen, such as:

- CBY Circular No. 11 of 2014: Mobile Banking Regulatory Framework;
- Law No. (17) of 2013 Amending Certain Articles of the Anti-Money Laundering (AML) and Counter-Terrorism Financing (CFT) Law No. (1) of 2010;
- CBY Circular No. 1 of 2013: Guidelines to Money Change Companies Relating to Combating Money Laundering and Terrorism;
- CBY Circular No 2 of 2013: Basic Indicators for Suspected Transactions Involving Money Laundering and Terrorism Financing.

All information gathered was analyzed by the AMEG e-money expert and compared to e-money experiences worldwide, as well as international best practices. Conclusions, recommendations, and potential pilot activities were vetted with AMEG's Yemeni Regional Representative as well as international and local stakeholders for an initial analysis of viability.

SECTION 2

FACTORS TO SUPPORT ACCESS TO E-MONEY SERVICES

A number of banks and non-bank financial institutions, as well as various partnerships between these different players, have offered e-money services around the world. The most successful implementations have primarily been directly led by MNOs either by setting up a non-bank e-money issuer subsidiary (such as MPesa, Tigo, Pesa, MTN Money, or Airtel Money that operate throughout Africa) or, in environments where banks need to be the e-money issuer, in partnership with a bank (such as the investment by Telenor in Tameer Microfinance Bank in Pakistan to launch Easypiasa). In markets where the main provider needs to be bank-led, as is the legal requirement in Yemen, the most successful examples have come from innovators that formed a bank or developed a specialized subsidiary bank, such as QIWI in Russia and bKash in Bangladesh. It should be further noted that the majority of successful e-money operators have generally been those providers that already had a sufficient client base and the potential to rapidly open up agent cash-in and cash-out networks based on their connection to other businesses.

In addition, to support the use of e-money viably by a broad range of customers, there have been fairly consistent approaches that take into account various key aspects of effectively implementing and rolling out the use of e-money services.¹ These various steps include starting with customer perspective, understanding the market conditions and country context, looking at regulations, analyzing the institutional framework, and then ensuring that products are carefully developed and properly tested before being launched at scale. Other key factors include:

- Sufficient cash-in and cash-out agent networks;
- Strategic partnerships both among and between the private sector, as well as support from the public sector;
- Building trust in the system;
- Product design and implementation focused on simplicity;
- Marketing and promotion;
- Client education and financial literacy;
- Ultimately expanding the value proposition for all players in the value chain (the e-money issuer, merchants, agents, clients, and, in many cases, the government)
- Getting sufficient money into the system to develop economies of scale.

As noted by the United Nations Capital Development Fund (UNCDF), access to digital financial services (DFS), especially e-money, can improve response efforts while also enabling resilience amongst individuals, communities, and markets after crises and

¹ See: *Lesson Using Mobile Money to Promote Financial inclusion: Develop a Road Map*.
<https://mobilemoneyfordevelopment.wordpress.com/2013/03/28/lesson-1-using-mobile-money-to-promote-financial-inclusion-develop-a-road-map/>

conflicts. There are now several examples where humanitarian interventions have incorporated e-money tools and systems in order to take advantage of opportunities to make the delivery of payments more accountable, traceable, and secure. It is however, important to point out that the more the DFS infrastructure and e-payment ecosystems are in place prior to the crisis (that is to say, the more key factors listed on the previous page are met), the better the post-crisis humanitarian relief response will be and the greater the resilience of the individuals and communities affected.²

² See: *DFS in Post-Crisis Contexts*.

http://www.uncdf.org/sites/default/files/Download/dfs_in_post_crisis_contexts_for_consultation_2016-05-10.pdf

SECTION 3

E-MONEY SERVICES IN YEMEN

The use of e-money has been shown to improve the efficiency and cost effectiveness of transfers and payments during crisis situations in some countries.³ E-money and related digital financial services can play a key role in improving response efforts while also supporting the approach of building a more inclusive economic growth foundation post-crisis and conflict. Linking to formal financial services and payment ecosystems can enable financial inclusion and boost resiliency needed to enable individuals and communities to minimize economic and social disruption from human-made crises. To achieve this vision in Yemen however, more investment is required in building and improving the information and communications technology, applications, products, services, human and institutional capacity, and policy and regulatory environment that comprise an e-money and digital financial service ecosystem.⁴

The following section describes the state of e-money services as well as documents some of the challenges faced by the industry to introduce these services. This section also documents some of the suggested solutions to address these constraints; some of which are included in the list of recommended interventions found in in Section 4.

E-MONEY PROVIDERS, PRODUCTS, AND SERVICES

Al-Kuraimi Islamic Microfinance Bank, Al-Amal, Yemen Post, and Tadamon International Islamic Bank have all applied and been granted conditional licenses⁵ by CBY to offer mobile e-money products and services. Al Kuraimi launched its mobile e-money platform M-floos in August 2016 and Al-Amal and Tadamon banks plan to start publicly offering their e-money services in early 2017. Other than Yemen Post, which does not yet have an e-money system, all licensed banks have their own unique strategic plans and alliances. All three demonstrate the potential to not only support outreach and adoption but more importantly, usage of e-money services. In particular, Al-Kuraimi and Al-Amal banks both work with the SFD to process humanitarian assistance cash transfers under the Yemen Emergency Crisis Response initiative, which is disbursing funds for UNICEF, UNDP, and the World Bank. On the other hand, Tadamon bank is part of the Hayel

³ See: *The Digital Financial Services in Crisis Context*.

http://www.uncdf.org/sites/default/files//Documents/dfs_in_crisis_brief_07-25-2016.pdf

Also, see: *The Disaster Response: Mobile Money for the Displaced*.

<http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/01/Disaster-Response-Mobile-Money-for-the-Displaced.pdf>

⁴ See: *Digital Financial Services in Post-Crisis Contexts: Improving Response, Building Resilience*.

http://www.uncdf.org/sites/default/files/Download/dfs_in_post_crisis_contexts_for_consultation_2016-05-10.pdf

⁵It should be noted that the e-money licenses are conditional due to the fact that an independent assessment of the platforms still needs to be conducted.

Saeed Anam (HSA) Group⁶, which gives it access to an impressive distribution network serving the entire country.

Al-Kuraimi Bank

Al-Kuraimi has already trained 500 agents – of which 237 are currently active – and has plans to train more agents. To support bulk payments, especially donor-funded cash transfers and payroll disbursements, Al-Kuraimi has developed an online tool called ABWAB. The system allows bulk payments to be made in real-time to both registered M-floos clients as well as non-registered clients.⁷ This online portal is free for donors and those issuing bulk disbursements like cash humanitarian assistance disbursements at a minimal transfer fee of only 30 Riyal (\$0.10) for each transaction. Recipients get to cash-out at agents for free. Based on similar platforms around the world, this fee is quite competitive and low-cost for e-money transfers.

Al-Kuraimi has received ongoing support from the IFC including support for the training of their agent network. An ongoing assessment is currently underway to better assess the current agent network of Al-Kuraimi Bank. To date, this is the only ongoing, significant, donor-funded effort aimed at scaling up the use of e-money in Yemen.

Tadhamon International Bank

Tadhamon is part of the HSA Group in Yemen, the largest distribution network in the country.⁸ Given the group's extensive outreach to the vast majority of retail outlets, it is in a unique position to not only rapidly increase the agent network, but also to advance merchant adoption of e-money at the retail, and especially at the wholesale level, which could dramatically increase uptake and usage. The company also currently operates remittance and money transfer services and has tie-ups with Western Union. The presented plans for the e-money services of Tadhamon's Mahfathati e-money service include not only domestic and incoming international remittances, but also the ability to pay utility bills and other payments including fees to hospitals and transportation companies. The bank also plans to offer card-less e-money withdrawals from the bank's extensive ATM network, which only requires the customer's phone number and a two-factor authentication process. Clients input their mobile number and personal identification number (PIN) and then receive an SMS with one-time unique passcode to input into the ATM prior to withdrawal. This is more secure than traditional card-based ATM withdrawals since it offers a more secure way to authenticate customers and their transactions. While someone could potentially observe someone's PIN number and steal an ATM debit card and use it for withdrawals, this system has the added feature of sending a one-time additional passcode directly to the customer's mobile phone for each transaction and does not require a card to be present to complete the transaction.

⁶ The HSA Group is a multi-national corporation and the leading private business group in Yemen. The Group's core business activities include edible oils, dairy products, biscuits and confectionery, flour milling, sugar refining, printing, and packaging; other strategic investments focus on petro chemicals, oil and gas, mineral mining and cement production.

⁷ Payments to unregistered clients only require a full name and phone number. Cash-out requires a one-time registration, which can be done at a bank branch or agent location.

⁸ See: HSA Yemen Group Activities: <http://www.hsagroup.com/business-activities/yemen-business.aspx>

Tadhamon International Bank is also planning to offer an online portal for donors and others wishing to offer bulk payments including cash transfers and salaries. Given their extensive distribution, they appear to be well positioned to offer and ensure merchant acceptance and sufficient cash-out services. They have also offered to develop a voucher operation that can be used for the purchase of goods and services from the majority of retail outlets in the country. In addition, the bank is already prepared to provide online support, as well as a call center support hotline for customers.

Al-Amal Bank

Al-Amal also plans to start e-money operations in 2017 but is already actively engaged in supporting cash transfers on behalf of the SFD. They have already processed more than 1.5 million cash transfer disbursements through their car (mobile) bank, agent network, and connected retail traders. The bank currently has a network of 500 cash-out locations and is planning to expand this to 1,400 locations in 2017. The bank has also invested in a biometric-enabled identification platform with funding from UNICEF, which relies on fingerprint and facial recognition. They are currently focused on cash disbursements in Sana'a, Taiz, and Ibb, but they are looking at nationwide coverage in the near future. They envision being able to quickly utilize the mobile e-money system to disburse funds to SFD clients that they are servicing but see the need for extensive investment in customer education to support this effort.

EXHIBIT A. LICENSED E-MONEY PROVIDERS IN YEMEN

	AL-KURAIMI BANK	AL-AMAL MICROFINANCE BANK	TADHAMON INTERNATIONAL BANK	YEMEN POST
E-MONEY PLATFORM	M-floos, Yemen's first operational e-money platform	Current mobile banking SMS service. E-money service planned for January 2017	Mahfathati planned for January 2017	Post Mobily product still in the planning stage
BRANCH NETWORK	Extensive branch network nationwide covering 22 cities	20 branches	18 branches, and extensive ATM network	Extensive postal savings bank
CLIENT BASE	800,000 client accounts	125,000 deposit accounts, 34,900 loan clients	Information not provided	500,000 deposit accounts
AGENTS, ACTUAL / PLANNED	500 agents of which 237 are currently active. Plans to train more agents	500 current agents; plan to grow to 1,400 in 2017	Information not provided	Information not provided
UNIQUE PARTNERSHIPS / PROGRAMS / PLANS	To support bulk payments, especially donor-funded cash transfers and payroll disbursements, they have developed an online tool called ABWAB. The system allows bulk payments to be made in real time to both registered M-floos clients as well as non-registered	The bank has also invested in a biometric-enabled identification platform with funding from UNICEF, which relies on fingerprint and facial recognition. They are currently focused on cash disbursements in Sana'a, Taiz, and Ibb, but they are looking	Part of the HSA Group. It is in a unique position to not only rapidly increase the agent network but also merchant adoption of e-money at the retail and especially at the wholesale level, which could dramatically increase uptake and usage. The company also currently operates remittance and money transfer services	Information not provided

	AL-KURAIMI BANK	AL-AMAL MICROFINANCE BANK	TADHAMON INTERNATIONAL BANK	YEMEN POST
	clients ⁹ . This online portal is free for donors and those issuing bulk disbursements like cash humanitarian assistance disbursements at a minimal transfer fee of only 30 Riyal (\$0.10) for each transaction and recipients get to cash-out at agents for free. Based on similar platforms around the world, this fee is quite competitive and low-cost for e-money transfers.	at nationwide coverage in the near future. They envision being able to quickly utilize the mobile e-money system to disburse funds to SFD clients that they are servicing but see the need for extensive investment in customer education to support this effort.	and has tie-ups with Western Union. The bank also plans to offer cardless e-money withdrawals from the bank's extensive automated teller machine (ATM) network. It also plans to establish an online portal to offer bulk payments as well as a voucher operation that can be used for the purchase of goods and services from the majority of retail outlets in the country. In addition, it has already prepared for an online and call center for customers.	

CBY is also in the process of issuing two more licenses for commercial banks including the International Bank of Yemen (IBY), which has developed its own internal system. IBY also has direct connections to MTN Yemen, whose international affiliate operates one of the largest e-money services across Africa: MTN Money. The Current e-money initiative at IBY is undergoing testing internally with employees of the bank, and is scheduled to be offered, pending CBY approval, in 2017.

REGULATORY ENVIRONMENT

Yemen has made significant steps to expand the use of e-money and basic financial transactional accounts prior to the conflict. In 2012 and 2013, AMEG, together with the World Bank, the Alliance for Financial Inclusion (AFI), and others helped the CBY to draft and finalize implementing regulations for the existing *Law No. 40 for the Year 2006: Payment Systems and Electronic Financial and Banking Transactions* with respect to the development and deployment of mobile e-money products and services. The final *Mobile E-Money Service Regulations* were approved via circular in December 2014. The mobile e-money regulations in Yemen list the requirements for obtaining an e-money license (providers must be banks), what services are allowed, the responsibilities of e-money issuers, who can serve as an agent and what they can do, compliance with anti-laundering and terrorism financing regulations, risk management, consumer protection, the responsibilities of clients, and the allowance for limited tiered KYC requirements.

CBY, along with a fairly active and engaged private sector base, has had a continuous dialogue that has resulted in a regulatory framework that supports the introduction and

⁹ Payments to unregistered clients only require a full name and phone number. Cash-out requires a one-time registration, which can be done at a bank branch or agent location. Cash out for unregistered beneficiaries should require only identification and phone number just for them to send an SMS to the beneficiary that he/she received a transaction and then the sender receives an SMS that the beneficiary received the transaction.

adoption of e-money services. Similar to situations in other markets, regulations require constant adjustment to support and react to the market to both provide an enabling environment and support safety and soundness. In the case of Yemen, the industry has raised several suggestions that CBY is considering, but need further technical support, including:

- Enabling crisis-adaptable Tiered KYC requirements for account opening;
- Ensuring that multiple access outlets including a variety of branches, ATMs, and third party agents are in place and can be utilized by multiple players;
- Ensuring adequate access to ICT infrastructure such as USSD access;
- Supporting risk-based proportionate regulatory oversight and supervision;
- Establishing clear and effective consumer financial protection rules that take into account the unique aspects of e-money and especially mobile-based interfaces.

KYC REQUIREMENTS

The KYC rules in Yemen for the opening of financial accounts currently require a Yemen national identification card. The challenge is that less than half of the adult population has a national identification card and, due to the crisis, the ability to offer national identification cards for all Yemenis is limited.

EXHIBIT B. EXISTING KYC TIERS IN YEMEN

TIER 1: TRANSACTIONS UP TO 30,000 RIYAL (USD \$100)	An account opened using a personal ID without the need for a national number / family card / military card / social security card / electoral card / passport for foreigners.
TIER 2: TRANSACTIONS OVER 30,000 RIYAL (USD \$100)	An account opened with a personal ID along with a national number, or a passport for foreigners.

While Yemen's current two-tier approach does allow some flexibility, local e-money operators in Yemen have shared that the amounts listed are considered too low to support those receiving cash transfers, salaries, or microfinance loans. CBY is aware of these concerns and is considering issuing an update to this policy. One alternative might include providing a middle tier for those customers who can be identified from other acceptable means of identification, or who are connected to a large company, for the purposes of regular disbursements, especially for payroll – a process which is allowed in other countries. This recommendation is elaborated upon as a high-priority recommended intervention in Section 4.

ACCESS TO THIRD-PARTY AGENT NETWORKS

CBY initially planned to support policies that promoted non-exclusive agent networks to ensure viability of the agent and to allow for pooled investments among the providers to build out this essential infrastructure. However, during the initial release of the mobile e-money circular, agents were not allowed to contract with more than two banks to offer cash-in and cash-out services. Rectifying this situation is also listed as a high priority intervention in Section 4.

ACCESS TO ICT INFRASTRUCTURE

While e-money providers are looking at a full range of disbursement mechanisms from cardless, mobile-enabled ATM withdrawals to agents and the use of vouchers at retailers, they are faced with the challenge of fair access to the ICT infrastructure. The government's Yemen Net is the only traditional internet provider, and Yemen Mobile Code Division Multiple Access (CDMA) service is the most stable in providing internet access in rural areas. It should be noted that most clients do not have access to smart phones, and in 2013, internet penetration in Yemen stood at 20 percent. Still, there are a significant number of mobile users, as shown in Exhibit C below. Thus, SMS and ideally more secure USSD channels are needed to provide mobile e-money services.¹⁰ E-money operators are currently unable to access USSD channels however, due to existing rules and regulations. USSD's advantage has been that it offers the most reliable communication format available in most markets where e-money is available as it can be prioritized above all other communication formats offered by MNOs. Voice and SMS generally suffer from being second and third order priorities respectively, on a mobile network.

EXHIBIT C. MOBILE PHONE SUBSCRIBERS

	YEMEN MOBILE (CDMA)	MTN	SABA PHONE	Y MOBILE
ACTIVE MOBILE PHONE SUBSCRIBERS	5,000,000	4,500,000	2,600,000	500,000

Menu-driven formats supported by USSD have proven more user-friendly for customers. One of the challenges in several markets, however, is that MNOs – especially those seeking to partner with banks to offer mobile e-money services – find themselves either directly or indirectly competing with other banks, pressuring them to focus on their networks or restricting access to USSD channels altogether. This presents a challenge, as access to USSD channels are increasingly being viewed as public communication infrastructure that should be offered at reasonable rates (similar to the way SMS rates are set and determined) to all businesses that want to access them, especially banks.

The issue of fair access to the USSD channel for banks and other non-MNO non-bank financial players has been a contentious issue that often requires appropriate analysis and coordination between the telecommunication regulator, the financial regulator, and, in some markets, the competition regulator or authority.¹¹ In Yemen, e-money operators have raised this issue as they have been blocked from having access to the USSD channel.

¹⁰ See: *Choosing a Mobile Phone Banking Format*.

http://www.microsave.net/files/pdf/BN_67_Choosing_a_Mobile_Phone_Banking_Format.pdf

¹¹ See: *Promoting Competition in Mobile Payments; The Role of USSD*.

<http://www.cgap.org/sites/default/files/Brief-The-Role-of-USSD-Feb-2015.pdf>

REGULATORY OVERSIGHT AND SUPERVISION









Yemen's mobile money regulations requires providers of e-money services to be fully licensed and regulated banks. Just in the last month however, the Central Bank of Yemen in Sana'a has begun working on an amendment to the mobile money regulations to allow MNOs to provide e-money. Mobile network operators like MTN are in a unique position of having the networks, systems, and experiences in other countries to be able to quickly and effectively set up e-money services in Yemen.

The issuance of the new mobile e-money regulations occurred just before the war broke out in Yemen at the end of 2014. At the time, CBY realized that it needed additional technical expertise and support to conduct independent evaluations of the e-money systems to ensure they were robust and sufficiently secure. Due to the war, this support did not occur and the issuance of the initial e-money operator licenses is conditional until proper evaluations can be conducted.

CURRENT CONDITIONS FOR E-MONEY ACCESS, ADOPTION, AND USAGE IN YEMEN

Based on the above review of the current situation in Yemen, the country still has several challenges to overcome to be able to meet important factors/conditions mentioned in Section 2 to support sufficient access and promote adoption and usage of e-money. The table on the following page provides a summary of where Yemen stands with regards to these factors/conditions.

EXHIBIT D: CURRENT CONDITIONS FOR E-MONEY ADOPTION IN YEMEN

CONDITIONS TO SUPPORT E-MONEY	STATUS IN YEMEN	
SUFFICIENT CASH-IN AND CASH-OUT AGENT NETWORKS		<ul style="list-style-type: none"> Only 237 active mobile e-money agents are operational via Al-Kuraimi Bank, but the bank plans to expand the network to 1,700 agents in 2017. Expansion plans also underway by two other e-money providers: Tadamon International Bank and Al-Amal Microfinance Bank.
STRATEGIC PUBLIC AND PRIVATE PARTNERSHIPS		<ul style="list-style-type: none"> Al-Kuraimi and Al-Amal banks partner with SFD to process humanitarian assistance cash transfers under the Yemen Emergency Crisis Response initiative (funded by UNICEF, UNDP, and the World Bank). Tadamon International Bank owned by the HSA group which also has the largest distribution network in the country.
TRUST IN THE SYSTEM		<ul style="list-style-type: none"> Al-Kuraimi has the only active mobile e-money system in place; other two providers with systems are starting in 2017. Limited public information in the system and an ongoing crisis may make it difficult to trust in e-money until pilots and CBY oversight are visible.
REMOTE OPENING OF ACCOUNTS		<ul style="list-style-type: none"> Remote opening of e-money accounts is possible in Yemen but a significant percentage of Yemenis do not have required national ID. Current two-tier KYC process was implemented to support the opening up of low-value low-risk accounts, but this system currently is hampering use cases. A middle tier with alternative IDs is being discussed but requires an updated circular from CBY.
PRODUCT DESIGN AND IMPLEMENTATION FOCUSED ON SIMPLICITY		<ul style="list-style-type: none"> Best and easiest system to use for mobile e-money services is USSD,¹² but in Yemen, this access channel is currently restricted or not made available to the banks by the various mobile network operators.
MARKETING AND PROMOTION		<ul style="list-style-type: none"> Limited pilot testing has taken place; information about mobile e-money is not widely available. Expanded marketing and promotion are usually the second phase after sufficient time for pilot testing.
CLIENT EDUCATION AND FINANCIAL LITERACY		<ul style="list-style-type: none"> Teaching clients about how to use e-money platforms as well as how to protect themselves and their rights need to be in place to expand e-money services.
EXPANDING THE VALUE PROPOSITION FOR ALL PLAYERS IN THE VALUE CHAIN		<ul style="list-style-type: none"> After a successful e-money pilot phase and the initial stages of adoption, various e-money and related e-payment ecosystem use cases should be promoted and encouraged.

Note: Yellow indicates intermediate progress in this area; red indicates significant efforts still need to be made.

¹²Unstructured Supplemental Service Data (USSD) Channels tend to be the easiest mobile e-money and mobile banking interfaces to use but mobile network operators often directly or indirectly restrict or raise rates often to compete or limit bank access. See: *Choosing a Mobile Phone Banking Format*. http://www.microsave.net/files/pdf/BN_67_Choosing_a_Mobile_Phone_Banking_Format.pdf

SECTION 4

OPTIONS TO SUPPORT THE USE OF E-MONEY IN YEMEN

It should be noted that given the current situation in Yemen, and the early stage of e-money services there, the use of e-money and e-payments will take time to develop and should not be seen as a quick fix to getting funds out to large numbers of the population in the next 6-9 months. While e-money services have been used in other countries post-crisis, these markets have tended to be a bit more advanced in terms of existing e-money and e-payment infrastructure and adoption.

A nationwide roll-out of e-money salary payments and humanitarian assistance disbursements can only be a solution if the system in its entirety works properly. If not, a prematurely rolled out salary or humanitarian relief e-money system may not reach beneficiaries due to technical impediments, regulatory constraints, lack of awareness and/or understanding of the system, or other “chicken-and-egg” challenges related to the lack of established systems in place. In addition to the major humanitarian financial problem posed by e-money transfers not reaching their intended recipients, an inefficient, unreliable e-money rollout would likely impede future use of e-money due to an eroded trust in the technology, as well as the organizations sending the money including the Government of Yemen, relief agencies, and the e-money operators themselves.

In addition, conditions in Yemen differ greatly by region (governorate by governorate). Due to the uneven distribution of impacts from the war (as detailed in Annex A), uneven distribution of resources beforehand, and varying political control by district, successful e-money programs will need to be tailored to specific local contexts to be successful. This is a further reason for starting pilot activities on a local level before rolling them out on a larger scale.

While the e-money infrastructure is still in a nascent state in Yemen, there are steps that could be supported in order to ultimately enable e-money adoption and usage in the medium to long-term. Some critical needed investments include:

- Ensuring the presence of a reliable cash-in and cash-out agent network;
- Optimizing the retail payment infrastructure;
- Expanding technical capacities for DFS within and across all sectors;
- Making sure multi-donor initiatives incorporate DFS elements.

Given the current conflict context in Yemen, it is difficult to bring experts into the country to provide technical assistance to Yemeni stakeholders. CBY has however, shown great willingness to work with international experts outside of the country, as well as a willingness to improve the e-money enabling environment. Therefore, USAID and/or other international donors can have quick, meaningful impact in light of the

conflict by working with CBY on topics that will provide a more appropriate enabling environment for e-money. CBY's willingness to work with USAID was a factor in determining the list of feasible interventions below.

RECOMMENDED INTERVENTIONS: HIGH PRIORITY

Interventions below are divided into three categories: High Priority, Medium Priority, and Low Priority. Each activity listed can be implemented independently of the others, and while an ideal scenario would be a holistic program designed to implement all of the activities listed, the authors of this report understand that such an approach may not be feasible for a variety of reasons. Therefore, interventions are divided by priority, a criteria which takes into account both the needs on the ground for e-money facilitation, as well as feasibility given the current conflict context in Yemen. Recommendations from this section can also be found in table format in Annex B.

PROMOTE THREE-TIERED KYC

As noted earlier, a significant percentage of Yemenis do not have national identification cards. Hence, a two-tiered KYC process was initially implemented to support the opening of low-value, low-risk accounts. However, as in other jurisdictions where tiered KYC has been adopted, Yemen's nascent e-money industry and the current crisis situation may benefit from a more flexible approach that provides for a third, middle tier that allows for those with alternative forms of identification to open mid-size accounts, especially those that may be receiving cash transfers and salary payments. This is in line with the multi-donor *Principles for Digital Payments in Humanitarian Responses* which calls for proportionate KYC requirements, defined by context and risk assessment.¹³

Promote Three-Tiered KYC

- Timeframe: 3-6 months
- Required Input: 20 days LOE
- Presence in Yemen not required

In other countries, regulators have allowed some flexibility in using alternative IDs for low-value, low-risk accounts. These accounts tend to target payment amounts that are equivalent to monthly salary levels and/or government social welfare payments. These regulatory initiatives have followed the risk-based guidelines provided by the Financial Action Task Force (FATF) in order to guard against anti-money laundering (AML) and combatting the financing of terrorism (CFT) concerns.¹⁴ Supporting an appropriate enabling environment is key under any circumstance, but providing it during and after a crisis situation requires a particular amount of effort as well as flexibility.

Further study and analysis could support CBY to make appropriate adjustments to add a middle KYC tier that allows for some forms of alternative identification.¹⁵ The rules for

¹³ Principles for Digital Payments in Humanitarian Responses, No. 2: https://static.globalinnovationexchange.org/s3fs-public/asset/document/Digital-Payments-Humanitarian-Principles_0.pdf?BvMH5s_7H6psd5btsC7ZIS3v8KBx4Xdj

¹⁴ See: *Guidance for a Risk-Based Approach: Prepaid cards, mobile payments and internet-based payment Services*. <http://www.fatfigafi.org/media/fatf/documents/recommendations/Guidance-RBA-NPPS.pdf>

¹⁵ See: *Tip Sheet for Know Your Customer Regulations*. <http://elan.cashlearning.org/wp-content/uploads/2016/05/KYC-tipsheet.pdf>

allowing Central Banks to offer tiered KYC arrangements do require some analyses and study, but a rationale to allow for an additional tier could be adopted within a short timeframe and could assist to support the one existing and two new e-money providers which will be promoting e-money services beginning in early 2017.

PROMOTE OPEN AND AGNOSTIC AGENT NETWORK REGULATIONS

In countries that have successfully expanded the use of e-money services, building a proper cash-in and cash-out agent network has been a critical piece of the puzzle. To do this, some countries (such as Kenya) have allowed MNOs to open up financial subsidiaries and work through their existing agent network, while others (such as Bangladesh and Pakistan) have established open and agnostic agent networks for all operators. The *Principles for Digital Payments in Humanitarian Response* cite preference for these types of “interoperable payment systems that enable transfers to be made across multiple payment platforms, and provide distribution and access to services in a non-exclusive manner.”¹⁶

Yemen’s e-money circular allows for the creation of agent networks which e-money providers can directly contract, as well as encourages interoperability and the importance of a shared agent network. However, per the circular, agents must limit themselves to contract with no more than two e-money operators to provide cash-in and cash-out e-money services. While all three of the main e-money operators in Yemen have plans to invest in e-money infrastructure (including agents and acceptance at retail merchants), enabling an open and interoperable non-exclusive agent network would be a much more rapid and efficient route to building up a robust agent network in the country. Rather than requiring operators to compete and independently build their own proprietary agent network, the CBY could remove the restrictions on agents and allow them to contract with more than two e-money operators.¹⁷

Promote Open and Agnostic Agent Network Regulations

- Timeframe: 4 months
- Required Input: 10 days LOE
- Presence in Yemen not required

Based on initial discussions, the CBY should prioritize this change in order to more rapidly fast track the necessary cash-in and cash-out touch points that would be necessary for e-money services. Financial regulators in other countries are increasingly allowing and advocating for shared agent networks that do not restrict the number of e-money operators with whom an agent or agent network can contract. Removing this restriction in Yemen could facilitate multiple players sharing the investment to build out the agent network infrastructure in the country rather than investing in multiple, duplicating efforts and could dramatically increase e-money access points in the country.

RECOMMENDED INTERVENTIONS: MEDIUM PRIORITY

INVESTIGATE ALTERNATIVE ID OPTIONS

Should the CBY amend the KYC requirements to include a third-tier and formally allow alternative forms of identification, USAID and/or other donors could assist local

¹⁶ *Principles for Digital Payments in Humanitarian Response*, No. 8.

¹⁷ See: *Agnostic Platforms*. <https://bankingbeyondbbranches.com/tag/agnostic-platforms/>

providers to pilot the collection and sharing of these alternative forms of identification. In line with the *Principles for Digital Payments in Humanitarian Response*, this approach could coordinate with the national identification scheme to strengthen access to the national ID system.¹⁸ For example, in collaboration with the national ID authorities, SFD piloted a mobile ID drive in select villages for microfinance clients. The SFD representative captured each client's finger print, photo, and other required information to share with the national ID authority. After the ID was processed in Sanaa, SFD distributed the cards to the clients. SFD is looking to scale up this pilot in 2017.

Investigate Alternative ID Options

- Approximate Timeframe: 3-6 months
- Approximate Required Input: 15 days of Expert LOE
- Presence in Yemen not required

Another solution for digital identification which warrants further exploration in the Yemeni context is blockchain technology. Successfully utilized in other conflict contexts, this technology has assisted refugees, internally displaced persons, as well as other populations to create digital identifications for themselves, tied to various forms of tracking alternative identification means including the use of biometric data. These forms of alternative identification could be shared and made accessible to banks, merchants, and other agents, and can work in lieu of a national identification system in the short to medium term. In fact, due to the blockchain technology's built-in protections and encryption, identification on such a system is likely more secure, and can help organizations ensure financial disbursements receive their intended recipients. And because blockchain's distributed ledger technology enables ID holders to maintain their identities, records, and personal financial histories with or without a mobile phone, IDPs who may return to their original homes post-conflict have a backup in case their ID card or mobile device is lost.

The potential to introduce digital identification offers a tremendous opportunity to facilitate access to e-money and digital financial service platforms. Engagement in other crisis situations have tended to focus on aid agencies working with financial service providers to deliver cash, but there are opportunities for private sector roles in wider processes of registration and data management. In the case of Yemen, Al-Amal bank now has the technology to make use of biometric identification tools that could be linked to the national identification of customers and could be harnessed in the future.

TRAIN AGENT NETWORKS

In accordance with the *Principles for Digital Payments in Humanitarian Response*, donors should invest in organizational preparedness to quickly leverage digital payments, by providing training and guidance for staff to design and implement digital payment delivery mechanisms.¹⁹ For example, USAID or other

Train Agent Networks

- Approximate Timeframe: 12 months
- Approximate Required Input: 45 days of Expert LOE, training course enrollment for beneficiaries
- Presence in Yemen required

¹⁸ *Principles for Digital Payments in Humanitarian Response*, No. 5.

¹⁹ *Principles for Digital Payments in Humanitarian Response*, No. 6.

donors could support Training of Trainers in nearby countries using already available courses and manuals (such as the Helix Institute’s Agent Network Accelerator Course) to train operators in how to train agents to provide services.²⁰ Remote mentoring could also be provided to participating operators via video or phone conferencing during the rollout of trainings to their agent networks. Training should follow the guidelines set forth in the International Finance Corporation/Consultative Group to Assist the Poor (IFC/CGAP) *Technical Guide for Agent Management Toolkit: Building a Viable Network of Branchless Banking Agents*.²¹

In addition, efforts to support agent network training should build on earlier efforts and ongoing work. This includes building on the ongoing initiative of SFD to support agents for government banks and the ongoing work of the IFC with Al-Kuraimi Bank. This type of support for the rollout of agents could also potentially be offered to agent network managers should the Central Bank agree to allow for a fully open, agnostic agent model as described in the previous section.

PILOT E-MONEY SERVICES WITH SELECT EARLY ADOPTERS

As an initial step for promoting e-money services, USAID and other donors could help e-money provider pilot new services with bank employees or other select groups to help them learn firsthand the challenges clients may encounter in using mobile e-money. In line with the *Principles for Digital Payments in Humanitarian Response*, ensures bank staff understand the “operational and commercial realities for digital payment schemes.”²² Piloting services with bank staff also ensures that employees are familiar themselves with the technology and can explain it to customers and agents based on personal experience.

Pilot E-Money Services with Early Adopters

- Approximate Timeframe: 9 months
- Approximate Required Input: 10 days of expert LOE
- Presence in Yemen required

IMPROVE REGULATORY AND SUPERVISORY OVERSIGHT

Due to the war, the Central Bank was unable to carry out independent evaluations of the e-money systems to ensure they were sufficiently robust. As a result, all initial e-money operator licenses are still conditional until the proper evaluations can be conducted. CBY teams in Sana’a and Aden could potentially conduct the evaluations if provided with remote training and guidance. Training and support for CBY personnel have previously taken place in Amman, Jordan and future trainings in how to

Improve Regulatory and Supervisory Oversight

- Approximate Timeframe: 7 months
- Approximate Required Input: 60 days of expert LOE
- Presence in Yemen not required

²⁰See: Helix Institute Network Accelerator Course Description. <http://www.helix-institute.com/training-courses/agent-network-accelerator>. Helix has Accelerator Courses planned in Africa in 2017.

²¹Technical Guide for Agent Management Toolkit: Building a Viable Network of Branchless Banking Agents <http://www.cgap.org/sites/default/files/CGAP-Technical-Guide-Agent-Management-Toolkit-Building-a-Viable-Network-of-Branchless-Banking-Agents-Feb-2011.pdf>

²²*Principles for Digital Payments in Humanitarian Response*, No. 7.

conduct the evaluations could be continued in the future with USAID or other donor support.

SUPPORT EARLY CLIENT ADOPTION AND USAGE

As clients are introduced to e-money and potential various use cases, it helps to have a dedicated workforce, at least during the initial stages of the pilot test. In the Philippines, USAID provided fixed-price subcontracts to rural banks introducing the use of e-money over a 6-month period to cover the costs of training and supporting mobile phone banking specialists who were later funded by the banks.²³

Early Client Adoption and Usage

- Approximate Timeframe: 11 months
- Approximate Required Input: 120 days of expert LOE
- Presence in Yemen required

Working collaboratively with all three banks (and building on an open agnostic agent model as described on page 21) USAID can leverage the funding of all players to create a team of local e-money specialists to identify and train e-money agents. Similar to the “WIZZ Kids” used by WIZZIT in South Africa or the USAID-supported Mobile Phone Banking Specialists in the Philippines, this team of e-money specialists would fast track the development of a sufficient agent network, making it easier for clients to access, use, and gain trust in e-money in Yemen. Initial discussions with e-money providers suggested that initial pilots with a team of e-money specialists could be conducted in Hodeidah, Sana’a, or Aden with plans for a national rollout scheduled after a six-month trial period. The pilot can be conducted in coordination with SFD to support its various cash disbursement initiatives that are expected to be handled through all three e-money providers.

Potential USAID Support for Early e-Money Pilot Test

- Define product features based on target “use cases”
- Test various mobile e-money formats (USSD, SMS, and/or Interactive Voice Response services)¹
- Establish proper monitoring systems
- Ensure a well-defined implementation plan with roles, responsibilities, and timetables agreed to by all players
- Document the process flow
- Develop and test user guides in the field
- Test back office support
- Test contingency plans for system downtime, network failure, and other network-related issues
- Monitor the 24/7 customer service hotline
- Develop and pilot financial educational materials

²³ See: *Creating a Tipping Point for Mobile Banking Based Financial Services*.
http://www.microsave.net/files/pdf/BN_71_Creating_a_Tipping_Point_for_M_banking_based_Financial_Services.pdf

RECOMMENDED INTERVENTIONS: LOW PRIORITY

FAIR ACCESS TO USSD

The current and planned e-money providers have so far not been able to access essential USSD channels from the active MNOs in the country. While their systems can operate without access to the USSD channel, they would certainly benefit from gaining access and utilizing this service. Both CBY and the Ministry of Telecommunications and Information Technology are aware of this issue.

Fair Access to USSD

- Timeframe: 7 months
- Required Input: 20 days of expert LOE
- Presence in Yemen not required

In other countries, support from both the financial and telecommunication regulators have opened up this channel to ensure fair access to USSD. While this could take some time to implement in Yemen, USAID could share early research and examples from other countries to help CBY and the Yemen Ministry of Telecommunication and Information Technology to develop more appropriate regulations that could better ensure that fair access to this important part of the ICT infrastructure. Remote technical assistance with experts in this area could also support the two regulators to come up with appropriate policies.

SUPPORT FOR MERCHANT ADOPTION

All the banks have relationships with various merchants which could make use of e-money for payments or even for a voucher-type of initiative. Tadamon International Bank and their connection to the HSA group provide a unique opportunity to support the use of e-money among merchants at both the retail and wholesale level. Based on the volume of retail products that are distributed by the HSA group of companies, more than half of the base of the pyramid merchants as well as businesses that cater to middle to low income consumers are connected and/or directly rely on the distribution network set up by this conglomerate in Yemen.

Support for Merchant Adoption

- Timeframe: 7 months
- Required Input: 60 days of expert LOE
- Presence in Yemen required

ANNEX A. GOVERNORATE CONTEXTS

GOVERNORATE	BRANCHES / CASH-IN-OUT AGENTS			POPULATION	INTERNALLY DISPLACED PERSONS	CONTROL	GENERAL CONTEXT
	TADHAMON* *	AL-KURAIMI *	AL-AMAL				
Aden	<ul style="list-style-type: none"> 3 branches 3 micro-finance branches 12 ATMs 		<ul style="list-style-type: none"> 3 branches 14 agents 	580,000	<ul style="list-style-type: none"> 30,552 IDPs 367,002 Returnees 23% men, 23% women, 32% boys, 22% girls 	Government Controlled	<ul style="list-style-type: none"> Electricity is becoming more available Mobile network and internet coverage is good Liquidity remains a major issue CBY headquarters now located here
Ammanat Al Asimah	<ul style="list-style-type: none"> 8 branches 1 micro-finance branch 70 ATMs 		<ul style="list-style-type: none"> 1 branch 1 agent 	3,090,000	<ul style="list-style-type: none"> 157,782 IDPs 223,560 Returnees 22% men, 23% women, 28% boys, 27% girls 	Houthi Controlled	<ul style="list-style-type: none"> Electricity is a major problem, many homes don't get any electricity Mobile network and internet coverage is generally good, though lags exist with SMS Microfinance banks headquartered here, as well as the CBY E-Money Technical Team Liquidity remains a major issue
Dhamar	<ul style="list-style-type: none"> 1 branch 2 ATMs 		<ul style="list-style-type: none"> 1 branch 21 agents 	1,860,000	<ul style="list-style-type: none"> 137,682 IDPs 16,860 Returnees 22% men, 22% women, 30% boys, 26% girls 	Houthi Controlled	<ul style="list-style-type: none"> Electricity infrastructure is damaged, and poor coverage CDMA coverage is good, GSM coverage is poor, and internet connections are strong Liquidity remains a major problem

GOVERNORATE	BRANCHES / CASH-IN-OUT AGENTS			POPULATION	INTERNALLY DISPLACED PERSONS	CONTROL	GENERAL CONTEXT
	TADHAMON*	AL-KURAIMI*	AL-AMAL				
Hajjah	NA		<ul style="list-style-type: none"> 1 branch 46 agents 	2,070,000	<ul style="list-style-type: none"> 485,388 IDPs 43,296 Returnees 20% men, 21% women, 31% boys, 28% girls 	Mostly Houthi controlled, with some districts under Government control	<ul style="list-style-type: none"> One of the most negatively impacted regions by conflict Disrupted GSM coverage, CDMA coverage is good Liquidity remains a major problem
Lahjj	<ul style="list-style-type: none"> 1 branch 		<ul style="list-style-type: none"> 1 branch 15 agents 	900,000	<ul style="list-style-type: none"> 56,196 IDPs 67,104 Returnees 25% men, 25% women, 29% boys, 22% girls 	Mostly Government controlled, with some districts under Houthi control	<ul style="list-style-type: none"> One of the most negatively impacted regions by conflict Disrupted GSM coverage, CDMA coverage is good Liquidity remains a major problem Intense poverty
Sa'ada	NA		<ul style="list-style-type: none"> 29 agents 	1,040,000	<ul style="list-style-type: none"> 73,056 IDPs 25,236 Returnees 21% men, 24% women, 26% boys, 29% girls 	Almost entirely Houthi controlled with one district under Government control	<ul style="list-style-type: none"> Fighting is ongoing, this area is the most impacted Complete destruction in some districts Difficult access to finance and near impossible mobility
Sana'a	<ul style="list-style-type: none"> 8 branches 1 micro-finance branch 70 ATMs 		<ul style="list-style-type: none"> 7 branches 119 agents 	1,100,000	<ul style="list-style-type: none"> 207,810 IDPs 6,336 Returnees 20% men, 23% women, 29% boys, 28% girls 	Almost entirely Houthi controlled with one district under Government control	<ul style="list-style-type: none"> Fighting continues in some districts Good CDMA and GSM coverage Solar panels are quite common as alternative energy source Liquidity is a major problem

GOVERNORATE	BRANCHES / CASH-IN-OUT AGENTS			POPULATION	INTERNALLY DISPLACED PERSONS	CONTROL	GENERAL CONTEXT
	TADHAMON* *	AL-KURAIMI *	AL-AMAL				
Shabwah	<ul style="list-style-type: none"> 1 micro-finance branch 		<ul style="list-style-type: none"> 9 agents 	600,000	<ul style="list-style-type: none"> 16,236 IDPs 66,972 Returnees 25% men, 24% women, 27% boys, 24% girls 	Mostly Government controlled, with some districts controlled by Houthis and some controlled by AQAP and/or ISIS	<ul style="list-style-type: none"> Continuing conflict and fighting Liquidity is a major problem
Taiz	<ul style="list-style-type: none"> 2 branches 2 micro-finance branches 15 ATMs 		<ul style="list-style-type: none"> 3 branches 112 agents 	3,100,000	<ul style="list-style-type: none"> 426,672 IDPs 95,658 Returnees 24% men, 25% women, 27% boys, 24% girls 	The governorate is somewhat evenly divided between Houthi and Government controlled areas	<ul style="list-style-type: none"> Daily fighting continues, though banks open when fighting temporarily ceases No liquidity, though Saudi currency is widespread Disrupted internet and GSSM connections, but CDMA operates regularly Headquarters for the HAS group Poverty rates have recently increased dramatically
Al Hudaydah	<ul style="list-style-type: none"> 1 branch 1 micro-finance branch 1 ATM 		<ul style="list-style-type: none"> 1 branch 46 agents 	3,100,000	<ul style="list-style-type: none"> 104,268 IDPs 5,064 Returnees 21% men, 22% women, 30% boys, 26% girls 	Mostly Houthi controlled with 3 districts under Government control	<ul style="list-style-type: none"> Severe, ongoing humanitarian crisis, very high poverty level UN has concentrated on humanitarian disbursements here Phone connections are relatively strong here
Ibb	<ul style="list-style-type: none"> 1 branch 		<ul style="list-style-type: none"> 1 branch 26 agents 	2,700,000	<ul style="list-style-type: none"> 112,248 IDPs 12,642 Returnees 	Houthi controlled	<ul style="list-style-type: none"> Rare fighting in this area Banks are open regularly Phone coverage is good

GOVERNORATE	BRANCHES / CASH-IN-OUT AGENTS			POPULATION	INTERNALLY DISPLACED PERSONS	CONTROL	GENERAL CONTEXT
	TADHAMON*	AL-KURAIMI*	AL-AMAL				
	<ul style="list-style-type: none"> I micro-finance branch I ATM 				<ul style="list-style-type: none"> 21% men, 22% women, 28% boys, 28% girls 		<ul style="list-style-type: none"> Liquidity problems exist

*Al Kuraimi Bank has not yet provided branch/agent information to the AMEG team. We will continue to follow up, and intend to update this chart when information is received.

**Tadhamon Bank did not share agent information with the AMEG team, though informed researchers that they have the capability to stand up agents in any part of the country when necessary.

ANNEX B. POTENTIAL INTERVENTIONS TO SUPPORT E-MONEY EXPANSION IN YEMEN

Activity	Problem	Intervention	Required Steps	Timeframe											
High Priority Intervention #1				Months											
Three-tiered KYC	A significant percentage of Yemenis do not have national ID. The existing two-tiered KYC supports low-value, low-risk accounts, but government, SFD, and other donors cannot use lowest tier for payments > \$100 such as salary and social benefits.	Work with regulators to create another middle tier KYC category utilizing acceptable alternative forms of ID to open up e-money accounts for Yemenis without National ID.	1. Review and study examples of acceptable mid-tier alternative identification models used in other markets; analyze what forms of identification can be collected and used in Yemen. 2. Review potential security concerns and how they can be mitigated with close support from Yemeni authorities. 3. Draft tiered-KYC circular to be finalized and issued by the Central Bank of Yemen.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•20 days of expert(s) time over 3-6 months •Presence in Yemen not required											
High Priority Intervention #2				Months											
Open and Agnostic Agent Network Regulations	Current regulations limit agents to contract with a maximum of two operators. This limits the reach and interoperability of agent networks in Yemen, thus limiting the number of people served.	Work with regulators to allow agents to contract with more than two operators, allowing for pooled investments among providers to build out essential staffing infrastructure.	1. Share examples of agnostic agent network regulations from other markets with CBY. 2. Draft amendment to regulation to be finalized and issued by CBY.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•10 days of expert time over 2-4 months •Presence in Yemen not required											

Medium Priority Intervention #1				Months											
Alternative ID Options	A significant percentage of Yemenis do not have national ID. The existing two-tiered KYC supports low-value, low-risk accounts without ID, but government, SFD, and other donors cannot use lowest tier for payments > \$100 such as salary and social benefits.	Determine acceptable alternative forms of ID (including mobile ID services, blockchain, etc.), and provide assistance to test them.	1. Research and discuss alternative ID options (including examples used by others in the region, such as Jordan) with CBY, banks, and other stakeholders in Yemen. 2. Evaluate and test options with banks.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•15 days of expert time over 3-6 months •Presence in Yemen not required											
High Priority Intervention #2				Months											
Agent Network Training and Management	Al-Kuraimi Banks has 237 active mobile e-money agents, but plans to expand its network to 1,700 agents in 2017. Tadhamon International Bank and Al-Amal Microfinance Bank also have plans underway to expand their networks.	Adapt and build upon existing e-money training manuals and resources, subcontract trainers, and/or sponsor on- or off-site Training of Trainers for more rapid expansion of agent networks in Yemen.	1. Conduct an on-sight and off-sight review of the agent network challenges in Yemen. 2. Modify a course like the Helix Agent Network Accelerator Course or sponsor participants to attend a planned course for 2017. 3. Work with e-money providers to develop detailed plans for agent network expansion. 4. Provide remote mentoring for e-money providers to build out agent networks.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•45 days of expert time over 12 months •Training course enrollment for beneficiaries w/in the region •Presence in Yemen required											
Medium Priority Intervention #3				Months											
Pilot e-Money Services with Select Early Adopters	Al-Kuraimi has the only active mobile e-money system in place. Limited public information in the system and an ongoing crisis may make it difficult to trust in e-money until pilots and CBY oversight are visible.	Pilot e-money services with bank employees and/or technical assistance providers to test the system, and give first-hand feedback.	1. Test e-money services with bank front-line and support staff. 2. Monitor e-money pilots with bank staff to ensure adequate customer support systems are in place. 3. Support develop of marketing and PR materials for e-money.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•10 days of expert time over 9 months •Presence in Yemen required											

Medium Priority Intervention #4				Months											
Improved Regulatory and Supervisory Oversight	All e-money operator licenses are still conditional, as CBY was not able to conduct independent evaluations of the e-money systems prior to the war.	Assist regulators in conducting independent evaluations of e-money systems to ensure they are sufficiently robust and secure.	1. Support Yemeni regulators to conduct reviews of e-money providers. 2. Provide additional mentoring and support to CBY for e-money supervision.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•60 days of expert time over 7 months •Presence in Yemen not required											
Medium Priority Intervention #5				Months											
Support for Early Client Adoption and Usage	Limited public information in the system and an ongoing crisis may make it difficult to trust in e-money until banks gain a critical mass of customers.	Develop a dedicated team of e-money specialists to fast track the development of a sufficient agent network, making it easier for clients to access, use, and gain trust in e-money in Yemen.	1. Support training and salaries of a cadre of e-money specialists to support all e-money providers over a 6-12 month timeframe. ²⁴	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•120 days of expert time over 11 months •Presence in Yemen required											
Low Priority Intervention #1				Months											
Fair Access to USSD	Best and easiest system to use for mobile e-money services is USSD, but this access channel is currently restricted or not made available to banks in Yemen by the various mobile network operators.	Work with Yemeni stakeholders to ensure e-money operators get access to USSD channels to better support mobile access to e-money services.	1. Provide an international telecommunications expert familiar with challenges relating to USSD fair access regulations to study various options used in other markets. 2. Present options to the Ministry of Telecommunications and Information Technology, and later to a public-private working group. 3. Draft appropriate fair access regulations to be finalized and issued by the Ministry.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				•20 days of expert time over 7 months •Presence in Yemen not required											

²⁴ See: USAID Frontlines: For Text-Savvy Filipinos, Mobile Banking Is a Crucial Bridge. <https://www.usaid.gov/news-information/frontlines/youth-mobile-technology-text-savvy-filipinos-mobile-banking-crucial>

Low Priority Intervention #2				Months											
Support for Merchant Adoption	SFD, World Bank, Oxfam, and other donors are using or planning to use e-money for distribution of humanitarian cash grants. However, not enough merchants are accepting e-money to make it easy for recipients to use e-money to pay directly for goods and services.	Work with donors and banks to make use of existing merchant relationships that could support the use of e-money for payments for goods and services.	1. Participate in SFD and Oxfam working group to ensure coordination on outreach and early pilot testing with merchants. 2. Support Tadamon International Bank to explore taking advantage of its parent company's (HSA group) distribution network in the country to build a network of merchants accepting its e-money system.	1	2	3	4	5	6	7	8	9	10	11	12
				Required Input											
				<ul style="list-style-type: none"> •60 days of expert(s) time over 7 months •Presence in Yemen required 											

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